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## THE DEPARTMENT OF ENERGY MARSHALL ISLANDS MEDICAL PROGRAM

### FISCAL YEAR 1988-1989 REPORT

DECEMBER 1, 1988

The Marshall Islands Medical Program, which is a clinical responsibility of the Medical Department, Brookhaven National Laboratory (BNL), continued to fulfill its contractual obligation to the United States (U.S.) Department of Energy (DOE) in this, its 34th year of medical followup of the radiation-exposed populations of Rongelap and Utirik atolls. The Marshall Islands Medical Program is now fully accredited by the Joint Commission on Accreditation of Healthcare Organizations as a satellite clinic of the Clinical Research Center, BNL.

#### BACKGROUND AND MEDICAL SCOPE OF WORK

The exposed population, which now numbers 163, must be considered at increased risk for malignant disease as a late complication of radiation injury. Therefore, the Medical Program has in place a cancer-related annual health evaluation. The examination follows the guidelines of the American Cancer Society and includes a medical history, complete physical examination, advice on decreasing risk factors for cancer, advice on self-detection of lesions, annual pelvic examinations and Papanicolaou smears, stool testing for blood, blood count, urinalysis, mammography, and flexible sigmoidoscopy. These procedures are performed more frequently than for a general population because of the presumed increased risk. In addition, because of earlier Brookhaven observations, it is known that the exposed are at greater risk for certain endocrine problems and, for this, they receive annual thyroid function blood tests and thyroid examinations by a specialist. Other tests are performed on a regular basis to attempt early detection of malignant lesions. There is also ongoing monitoring for clinical evidence of immune competence for the exposed may also be at increased risk for unusual manifestations of infectious diseases. Any exposed person with a malignant neoplasm, or who might conceivably have a malignant neoplasm, is referred to secondary or tertiary medical facilities for a definitive evaluation and for therapy if a lesion is found. The usual referral hospitals are in Honolulu and Cleveland, the latter because of the presence of a preeminent thyroid surgeon who has long been involved with the exposed Marshallese. Above and beyond the cancer-oriented examinations outlined above, the Medical Program also dispenses primary medical care and preventive medical services (such as immunizations) for all illnesses encountered at the time of the visits to the exposed population.

#### ORGANIZATIONAL STRUCTURE

The medical direction of the program and the organization of the medical missions to the Marshall Islands are activities which are centered at Brookhaven. The full-time nucleus of the Medical Program includes a physician director, an administrator, and a technical specialist located at BNL, as well as a Marshallese technician at Ebeye Island. The physicians chosen to support

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the missions are skilled volunteers, consisting primarily of medical school faculty members, often with past experience with the program. Logistical support, including translators, is provided by DOE. A copy of each examination is given to the examinee, and originals of all medical records are retained at Brookhaven for clinical use and statistical purposes. Also archived there are all pathology specimens, blood smears, and x-rays obtained over the many years of the program.

In the process of bringing to the exposed Marshallese modern facilities for diagnosis and treatment of disease, the physicians of the Medical Program come into contact with children and other family members of the exposed, as well as other island inhabitants. It has been the policy of DOE that primary medical care be offered to these individuals on the basis of humanitarian need and as resources permit. Problems requiring further medical attention are referred to the health services of the Republic of the Marshall Islands.

#### Fiscal Year (FY) 1988

Two ship-supported medical missions were carried out in the past year. The spring mission, being the major medical effort, included the following medical specialties: hematology, obstetrics/gynecology, endocrinology, radiology, gastroenterology, general internal medical/surgery, and family medicine. The second mission was necessary to complete some aspects of the examinations begun on the spring mission and to permit exposed persons unable to be seen in the spring another chance for examination. Of the remaining 163 exposed persons, 138 received an examination in the past year; 152, or 93.2 percent, have received an examination within the past 2 years. Among the 11 persons missed are 2 individuals now residing in the U.S.

Of the exposed persons examined in the past year, 12 required medical evaluation beyond that available from the ship-supported Brookhaven medical team. They were referred to Honolulu, the National Institutes of Health, or the Republic of the Marshall Islands government.

An unstated but important function of the Marshall Islands Medical Program is to disseminate information on the medical consequences of the Marshallese radiation exposure. This public health role, i.e., notification of the medical community of new or unique medical information, is an appropriate duty for all healthcare organizations. In FY 1988, the Marshall Islands Medical Program published a report on toxoplasmosis in the population it serves (American Journal of Tropical Medical Hygiene, 36:315, 1987). A clinical review of the Marshallese radiation experience was presented at the 8th International Congress of Endocrinology in Kyoto, Japan (to be published by Excerpta Medica). In addition, a BNL report updating the general health status of the exposed population for 1985 through 1987 is in preparation.

Of perhaps even greater importance is the sharing of these findings with the people of the affected atolls and the Republic of the Marshall Islands government. This information is disseminated through village meetings during the medical visits and by correspondence as appropriate.

Computerization of medical records for clinical use has continued, and, following its introduction in FY 1988, has been found a useful adjunct to standard medical records while in the field. An offer to share the computer program and data has been extended to the 177 Health Care Program in Majuro. The latter program, funded under Subsidiary Agreement 177 of the Compact of Free Association (Public Law 99-239) to manage the special health care program for the people of Rongelap, Utirik, Enewetak, and Bikini, covers aspects of medical care which differ from those offered by the DOE Marshall Islands Medical Program. Integration of information in the two programs would represent important progress in improving continuity of care. Programmatic integration is in evidence elsewhere; a 177 Health Care Program physician accompanied both FY 1988 medical missions.

#### FY 1989 PROGRAM

The FY 1989 requirements and planned program are similar to the past year. The initiative to integrate the diagnosis, treatment, and followup of exposed patients into the Republic of the Marshall Islands health services system continues. The objective is to have BNL provide for the exposed group only those special services that cannot promptly or effectively be handled through the Republic of the Marshall Islands health services. The 177 Health Care Plan is the component of the Republic of the Marshall Islands health care system into which the DOE/BNL program is to be integrated.

#### FUNDING

Attached is a summary of FY 1988 expenditures and estimated cost for FY 1989.

Attachment

# DEPARTMENT OF ENERGY MEDICAL PROGRAM SUMMARY

(000's)

	<u>FY 1988</u> (Actual)	<u>FY 1989</u> (Estimate)
1. -Administration, four full-time employees; mainland United States referrals; mission medical and technical personnel; two major ship-supported missions.	900	900
2. Ship charter <sup>1</sup> fuel, medical supplies, shipping, personnel transportation, logistics, and administration.	1,000	1,100
3. Medical referrals to Honolulu.	<u>200</u>	<u>200</u>
TOTAL:	\$2,100	\$2,200

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<sup>1</sup>The ship is chartered on a full-time basis by the Department of Energy (DOE) and also supports other DOE missions in the Marshall Islands, such as the DOE effort at Bikini. Because of the remote location, it has not been possible to charter a suitable specialized vessel of opportunity on an ad hoc basis. Thus, we have not attempted to attribute vessel costs to specific programs. At this time, there is no economical or sound logistical alternative to support by a ship because of an aging population, specialized medical equipment requirements, and limited air service to outer atolls.